

Urban District of Brierfield.



Annual Report

FOR THE

Year ending December 31st, 1911,

OF THE

Medical Officer of Health,

(J. S. WILSON, M.B., C.M.,)

— AND —

*Surveyor and Sanitary
Inspector,*

(B. HALSTEAD),

Member of the Incorporated Association of Municipal and County
Engineers, and Associate of the Royal Sanitary Institute.





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BRIERFIELD.



THE MEDICAL OFFICER OF HEALTH'S ANNUAL REPORT

FOR THE YEAR ENDING 31ST DECEMBER, 1911.



TO THE CHAIRMAN AND MEMBERS OF THE URBAN DISTRICT
COUNCIL.

GENTLEMEN,

I have pleasure in submitting for your consideration my eighth Annual Report on the health and sanitation of the district.

The population of the Urban District at the last Census in April of 1911, was 8,260.

The distribution was as follows :—

| | |
|------------------|------|
| North Ward | 1748 |
| South Ward | 2235 |
| East Ward | 2446 |
| West Ward | 1831 |
| <hr/> | |
| Total | 8260 |

The number of inhabited houses was 1,868, the number of inhabitants to each house was 4.42, and the number of empty houses was 21.

Since the Census 40 houses have been certified as completed, and therefore I have calculated my statistics on a population of 8,300 to the middle of the year.

From Table A you will be able to compare the birth rates, death rates, and zymotic death rates for the last five years.

TABLE A.

| | 1911 | 1910 | 1909 | 1908 | 1907 |
|---------------------------|-------|-------|-------|-------|-------|
| Birth-rate..... | 19'03 | 19'65 | 21'39 | 22'85 | 21'83 |
| Death-rate | 11'68 | 10'23 | 11'74 | 14'2 | 12'5 |
| Zymotic Death-rate | 2'16 | 1'04 | 0 80 | 1'6 | 0'6 |
| Phthisis Death-rate | 0 84 | 0 81 | 1'5 | 1'6 | 1'5 |
| Respiratory | 1'56 | 1'97 | 2'2 | 3'2 | 4'7 |

BIRTHS.

During the year there were 158 births (94 males and 64 females). Of these 7 were illegitimate (5 females and 2 males). This gives a birth rate of 19.03, compared to 19.65. This is the lowest birth rate recorded in Brierfield.

DEATHS.

During the year there were 97 deaths (55 males and 42 females). This is equivalent to an annual death rate of 11.68. There were 28 deaths of children under five years, equal to 28.9 per cent. of the total deaths.

INFANTILE MORTALITY.

The rate of deaths under 1 year to 1,000 births is 120. They were distributed in the following ages :—

5 under 1 month.

8 over 1 month and under 6 months.

6 over 6 months and under 1 year.

From Table B you will see the cause of death in each case.

1911. Nett Deaths from stated causes at various ages under
1 year of age.

| CAUSE OF DEATH. | Under 1 week | 1-2 weeks | 2-3 weeks | 3-4 weeks | Total under 1 month | 1-3 months | 3-6 months | 6-9 months | 9-12 months | Total Deaths under 1 year. |
|---|--------------|-----------|-----------|-----------|----------------------------|------------|------------|------------|-------------|-------------------------------------|
| All causes :— | | | | | | | | | | |
| Certified ... | 4 | 1 | | | 5 | 4 | 3 | 4 | 2 | 18 |
| Uncertified ... | ... | ... | | | ... | ... | 1 | ... | ... | 1 |
| { Diarrhoea | 1 | | | | 1 | 3 | 2 | 1 | | 7 |
| { Enteritis | | | | | | | 1 | 1 | | 2 |
| { Congenital Malformations ... | | | | | | | | 1 | | 1 |
| { Premature Birth | 3 | | | | 3 | | | | | 3 |
| { Atrophy, Debility and Marasmus ... | | | | | | 1 | | | | 1 |
| Rickets | | | | | | | | | 1 | 1 |
| Meningitis (<i>not Tuberculous</i>) ... | | | | | | | | 1 | | 1 |
| Bronchitis | | | | | | | 1 | | | 1 |
| Pneumonia (all forms) | | | | | | | | | 1 | 1 |
| Suffocation, overlying | | 1 | | | 1 | | | | | 1 |
| | 4 | 1 | | | 5 | 4 | 4 | 4 | 2 | 19 |
| | | | | | | | | | | |
| Nett Births in the year | | | | | { Legitimate ... | 151 | | | | |
| | | | | | { Illegitimate ... | 7 | | | | |
| Nett Deaths in the year of | | | | | { Legitimate Infants ... | 19 | | | | |
| | | | | | { Illegitimate Infants ... | — | | | | |

In Table C, taken from Dr. Sergeant's Report, you will see the comparative death rate of children under 1 year in Brierfield, in the Urban and Rural Districts of Lancashire, and in England and Wales.

TABLE C.

| | 1911 | 1910 | 1909 | 1908 | 1907 | 1906 |
|----------------------------|------|------|------|------|------|------|
| Brierfield | 120 | 137 | 98 | 151 | 151 | 164 |
| Rural Districts { Lancs. } | ... | 93 | 87 | 97 | 96 | 109 |
| Urban Districts { Lancs. } | ... | 121 | 119 | 136 | 129 | 143 |
| England and Wales..... | ... | 106 | 109 | 121 | 118 | 133 |

In Table D are given the causes of and ages at death during 1911.

In Table E are given the vital statistics of Urban District during 1911 and previous years.

TABLE D.

CAUSES OF, AND AGES AT DEATH DURING THE YEAR, 1911.

| CAUSES OF DEATH. | | | Nett Deaths at the subjoined ages of "Residents " whether occurring within or without the district | | | | | | | | |
|--|----------------|-----|--|--------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|------------------|
| | | | All ages | Under 1 year | 1 and under 2 years | 2 and under 5 years | 5 and under 15 yrs | 15 and under 25 yrs | 25 and under 45 yrs | 45 and under 65 yrs | 65 and up-wards. |
| 1 | | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| All causes | { Certified... | .. | 96 | 18 | 6 | 3 | 4 | 6 | 9 | 26 | 24 |
| | { Uncertified | ... | 1 | 1 | | | | | | | |
| Enteric Fever | | | 4 | | | 1 | | 1 | | 2 | |
| Whooping Cough | | | 1 | | 1 | | | | | | |
| Phthisis (Pulmonary Tuberculosis) ... | | | 7 | | | | | 1 | 1 | 5 | |
| Tuberculous Meningitis ... | | | 2 | | | | 2 | | | | |
| Other Tuberculous Diseases ... | | | 2 | | | | | 1 | | | 1 |
| Rheumatic Fever | | | 1 | | | | 1 | | | | |
| Cancer, malignant disease .. | | | 3 | | | | | | 1 | 2 | |
| Bronchitis | | | 8 | 1 | 1 | | | | | | 6 |
| Broneho-Pneumonia | | | 4 | 1 | | | 1 | | | 1 | 1 |
| Pneumonia (all other forms)... | | | 1 | | | | | | | | 1 |
| Diarrhœa and Enteritis ... | | | 13 | 9 | 3 | | | | | | 1 |
| Appendicitis and Typhlitis ... | | | 1 | | | | | 1 | | | |
| Alcoholism | | | 2 | | | | | | | 2 | |
| Cirrhosis of Liver | | | 1 | | | | | | | 1 | |
| Nephritis & Bright's Disease... | | | 5 | | | | | 1 | 2 | 1 | 1 |
| Other accidents and diseases of Pregnancy and Parturition | | | 1 | | | | | | 1 | | |
| Congenital Debility and Malformation, including Premature Birth | | | 5 | 5 | | | | | | | |
| Violent Deaths, excluding Suicide | | | 5 | 1 | 1 | 1 | | | 1 | 1 | |
| Suicides | | | 1 | | | | | | | 1 | |
| Cerebral Hœmorrhage... | | | 7 | | | | | | | 4 | 3 |
| Senile Decay | | | 9 | | | | | | | | 9 |
| Other Defined Diseases ... | | | 14 | 2 | | 1 | | 1 | 3 | 6 | 1 |
| | | | 97 | 19 | 6 | 3 | 4 | 6 | 9 | 26 | 24 |

TABLE E.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1911 AND PREVIOUS YEARS.

| Year. | Population estimated to Middle of each Year. | BIRTHS. | | | Total Deaths Registered in the District. | | Transferable Deaths. | | Nett Deaths belonging to the District. | | | |
|-------|---|----------------------------|--------|-------|--|-------|--|--|---|----------------------------------|--------------|-------|
| | | Uncor- rected number | Nett. | | Number | Rate. | of Non- residents regist'ed in the District 8 | of Resi- dents not regist'ed in the District. 9 | Under 1 year. | | At all ages. | |
| | | | Number | Rate | | | | | Number | Rate per 1000 nett Births. | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1906 | 7800 | | 170 | 21.79 | 102 | 13.07 | | ... | 28 | 164 | 102 | 13.07 |
| 1907 | 8200 | | 179 | 21.83 | 91 | 11.09 | | 12 | 27 | 151 | 103 | 12.56 |
| 1908 | 8400 | | 192 | 22.85 | 113 | 13.45 | | 7 | 29 | 151 | 120 | 14.28 |
| 1909 | 8600 | | 184 | 21.39 | 97 | 11.27 | | 4 | 18 | 97 | 101 | 11.74 |
| 1910 | 8600 | | 167 | 19.65 | 77 | 8.95 | | 11 | 23 | 137 | 88 | 10.23 |
| 1911 | 8300 | | 158 | 19.03 | 85 | 10.24 | | 12 | 19 | 120 | 97 | 11.68 |

Again I have to draw your attention to the progressive decline in the birth rate. There has been a continuous decline during the last ten years. This is general throughout England, with the exception of the mining districts. On the other hand, the State is now doing all in its power to reduce the infantile mortality and thus to minimise the evil.

The infantile death rate is rather lower this year than last, 120—137. During August and September we had a severe epidemic of summer diarrhœa; this was prevalent all over England. A circular was received from the Local Government Board, dated August 18th, advising certain preventive measures. They suggested that exact advice be given as to the feeding and management of children; vigorous efforts should be made to prevent the accumulation of decomposing vegetable and animal matter; that those parts of the district where diarrhœa was specially prevalent should receive more attention; regular scavenging, quick removal of stable and domestic refuse, etc. In accordance with these instructions, I issued two circulars, one shewing the action the house-fly played in the dissemination of this disease; the other giving advice as to the food given to babies at this time of the year, and to the care and preservation of the milk supply. The District Nurse received a list of all children born during the last twelve months, and was instructed to visit the homes of these children; to leave two circulars, one of each; to explain them if need be; and to give such advice as she deemed necessary to the parent. This was done. Despite these precautions, nine children died from this disease.

There is another circumstance to be taken into account. You will remember triplets were born in the district in July. They were premature, and all died. This in itself, in a small district as ours is, increased the death rate from 101 to 120.

In a public lecture recently delivered in Brierfield, grave exception was taken to the high infantile mortality for the third quarter of the year; no notice was taken of the fact that we lost no children during the second quarter, nor that the deaths of these triplets increased the infantile rate by one-fourth—187 to 250. This was scant justice to the Sanitary Authority and to their officials.

NOTIFICATION OF BIRTHS ACT.

Most of the cases have been notified. All those attended by midwives have been visited by the District Nurse; and the others, if desired by the doctor in charge. One or two complaints have been made to the Nurse; these have been investigated and the facts put before Dr. Sargeant; the cases are still under consideration.

INFECTIOUS DISEASES.

During the year we have had 32 cases of infectious disease notified:—Diphtheria, 3 cases; Erysipelas, 13; Scarlet Fever, 8; and Typhoid, 8.

In one case of diphtheria a swab was taken, which verified the diagnosis. In two cases Antitoxin was used at the expense of the Council; and one case—which died—was removed to the Sanatorium.

In my last report I mentioned that we had a small outbreak of Typhoid in November of the previous year; we have had one or two sporadic cases during the last year. Five cases occurred in one house; the source of infection in the first case could not be definitely ascertained, but as the infection was limited to that house the probability is the other cases were infected from the first. Mr. Halstead and myself visited the house, and on their refusal to go into the Sanatorium, certain instructions with regard to cleanliness and disinfection were given. We had four deaths: one in the Sanatorium, one at Blackpool, the other two at home. We are at present free from the disease.

From Table F you will be able to compare the number of infectious diseases notified during the last five years.

TABLE F.

| | 1911 | 1910 | 1909 | 1908 | 1907 |
|-----------------------|----------|----------|----------|----------|----------|
| Scarlet Fever | 8 | 9 | 9 | 9 | 16 |
| Diphtheria | 3 | 1 | 1 | 1 | 2 |
| Typhoid | 8 | 4 | 0 | 1 | 1 |
| Erysipelas | 13 | 3 | 7 | 4 | 5 |
| Puerperal Fever | 0 | 0 | 1 | 0 | 0 |
| | <hr/> 32 | <hr/> 17 | <hr/> 18 | <hr/> 15 | <hr/> 24 |

A memorandum on Acute Poliomyelitis was received from the Local Government Board, dated November, 1911, advising that it and Cerebro-Spinal Fever should be added to the schedule of diseases compulsorily notifiable under the Infectious Diseases (Notification) Act for the following reasons :—Several epidemics have occurred in England during the last few years, with a death rate of from 10 to 12 per cent.; a number of the milder cases have not been recognised; about half the patients who survive are crippled for life. They further advise the sanitary authorities should be prepared to give facilities for the examination by competent bacteriologists of material derived from the sick. In Brierfield, last year, as far as I can gather, we had six cases of Infantile Paralysis (Acute Anterior Poliomyelitis), so the expense would not be great.

A general order, dated Nov. 15th, was received from the Local Government Board, making further regulations in relation to Pulmonary Tuberculosis.

Article II. states :—“ These regulations shall come into operation on the first day of January, 1912, and shall be enforced and executed by every Council and their officers.”

A supply of forms has been received and sent to those practising in the district.

Article IX. states :—“ A Council may, on the advice of their Medical Officer of Health, supply all such medical or other assistance and all such facilities as may be reasonably required for the detection of Pulmonary Tuberculosis, and for preventing the spread of infection and for removing conditions favourable to infection, and for that purpose may appoint such officers, do such acts, and make such arrangements as may be necessary.”

We have had three cases notified in the district.

VACCINATION.

From Table G you will see the number of children vaccinated successfully, and the number of exemptions granted.

TABLE G.

| | | Births. | | Public Vaccinations. | | Private Vaccinations. | | Exemption Certificates. |
|------|-------|---------|-------|-------------------------|-------|--------------------------|-------|----------------------------|
| 1911 | ..... | 158 | ..... | 32 | ..... | 0 | ..... | 116 |
| 1910 | ..... | 167 | ..... | 29 | ..... | 6 | ..... | 120 |
| 1909 | ..... | 184 | ..... | 54 | ..... | 6 | ..... | 116 |
| 1908 | ..... | 192 | ..... | 59 | ..... | 6 | ..... | 121 |
| 1907 | ..... | 179 | ..... | 39 | ..... | 11 | ..... | 76 |
| 1906 | ..... | 170 | ..... | 69 | ..... | 12 | ..... | 81 |

NATURAL AND SOCIAL CONDITIONS OF THE DISTRICT.

The area of the district is 787 acres; the subsoil clayey and damp, but from its sloping situation there is a direct fall of five hundred feet from Marsden Height to Pendle Water, it lends itself very readily to drainage and neutralises to some extent the nature of the soil. The cultivated land in the vicinity is all pasturage and meadow, the produce from it being milk, butter, and eggs.

The staple industry is cotton weaving, both plain and coloured goods. There are over 7,000 looms, with — spindles; the mills are well-built and quite modern in every

respect. The health of the operatives is not unduly affected by their work. Owing to the fairly heavy rainfall which is necessary for good weaving, and the clayey subsoil, we have perhaps rather more than our share of respiratory diseases.

THE WATER SUPPLY.

The rainfall was very small last year, and for some weeks we were on a restricted supply. As we had several complaints regarding the colour and the amount of solid matter in the water, a sample of water was taken and forwarded to Mr. Raymond Ross, the Burnley Borough Analyst. The following is his report:—

[REPORT.]

To B. Halstead, Esq., Surveyor to the Brierfield District Council.

I, the undersigned, Public Analyst for the County Borough of Burnley, hereby certify that I have analysed the sample of water received from you on the 12th day of September, 1911, and marked: "Sample of drinking water taken at No. 47, Halifax Road, Brierfield, 10-30 a.m., Sept. 12th, 1911," both chemically and bacteriologically, with the following results:—

CHEMICAL ANALYSIS.

| | |
|--|---------------------------|
| Free ammonia | 0.0028 parts per 100,000. |
| Albuminoid ammonia ... | 0.0130 |
| Oxygen absorption | 0.188 |
| Nitric nitrogen (N ₂ O ₅).. | 0.65 |
| Chlorine | 1.3 |
| Total solids | 14.8 |

REPORT.

The chemical analysis is typical of a moorland water supply.

The somewhat high albuminoid ammonia and oxygen figures are due to peaty matter, and in my opinion cannot be considered objectionable from a health point of view.

The bacteriological examination also gave quite normal results considering the nature of the supply. The total number of organisms was not excessive, and the tests for typical coli and enteritidis were negative.

I am therefore of opinion that this water is free from objectionable pollution in its present condition, and may be safely used for drinking and domestic purposes.

As witness my hand this 21st day of September, 1911.

RAYMOND ROSS, F.I.C., F.C.S.

There are two wells in the district, the waters of which have been considered of great purity—the Stump Trough, and the Well at Reedley Farm. Many of the townspeople used one or other of these during the summer months. Seeing the large number of houses now built in Walter Street, under which the Stump water flows, it was decided to have both examined, and specimens were again forwarded for analysis, with the following result :—

Public Analyst's Office, Burnley.

August 25th, 1911.

B. Halstead, Esq., Surveyor to the Brierfield
Urban District Council.

Dear Sir,—In accordance with your instructions, I have examined the two samples of water received from you on August 18th and 22nd respectively, both chemically and bacteriologically, with the following results :—

“ THE STUMP TROUGH.”

| | |
|---|---------------------------|
| Free ammonia | 0.0020 parts per 100,000. |
| Albuminoid ammonia ... | 0.0046 |
| Oxygen absorption | 0.011 |
| Nitric nitrogen (N ₂ O ₅). | 1.64 |
| Chlorine | 1.7 |
| Total solids | 11.6 |

The chemical analysis of this water does not show any distinct evidence of pollution. The bacteriological examination is, however, by no means so satisfactory. Although the total number of organisms is not excessive, there is undoubted evidence of the presence of typical coli organisms. These may be caused by a very slight infiltration from leaky drains in the surrounding sub-soil, in which case they are most objectionable, or, if the water is of moorland origin the organisms may come from surrounding cultivated land, which is not permissible, or, they may be simply from moorland animal life (birds, etc.) in which case they need not be regarded as a serious detriment.

To elucidate these points I suggest that the site should be inspected and further samples taken simultaneously, one from close to the source and another from the delivery pipe, when any difference in composition will be easily observed and the question of infiltration or otherwise be satisfactorily determined.

“WELL, REEDLEY FARM.”

| | |
|---|---------------------------|
| Free ammonia | 0.0024 parts per 100,000. |
| Albuminoid ammonia ... | 0.0020 |
| Oxygen absorption | 0.006 |
| Nitric nitrogen (N ₂ O ₅). | 2.6 |
| Chlorine | 1.9 |
| Total solids | 15.6 |

Both the chemical and bacteriological results obtained from this water are satisfactory. In its present condition it may be safely used for drinking and domestic purposes.

Sometimes wells are apt to become contaminated by infiltration from the surrounding land in wet weather, especially if the sides are not kept in good repair.

I remain,

Yours faithfully,

RAYMOND ROSS, F.I.C., F.C.S.

I think the suggestions of Mr. Ross should be acted on before next summer, and the points referred to definitely elucidated.

Those residing in Marsden Heights have to depend on spring water, which is good and plentiful.

From Table H you will see the inspections made in connection with factories and workshops.

TABLE H.

| Premises. | Number of Inspections. | Number of Written Notices. |
|-----------------|---------------------------|-------------------------------|
| FACTORIES | 65 | 3 |
| WORKSHOPS..... | 23 | 0 |
| | <hr/> | <hr/> |
| Total..... | 88 | 3 |

Six slaughter-houses were registered for the year. The new arrangement for the Council to remove the refuse from the slaughter-houses immediately after use, has been found to work very satisfactorily indeed. Under the old method the removal was somewhat irregular and very difficult to control, besides causing, on many occasions, great inconvenience to the occupiers and a nuisance to the inhabitants in the vicinity.

The regulations with regard to dairies and cowsheds came into force on the 1st day of August last, and all the occupiers of farms in the district have been supplied with a copy.

There are eleven farms in the district supplying milk to Brierfield or adjoining districts. These have been visited and found on the whole to be kept in a clean condition; although in a few instances suggestions have been made with regard to improved arrangements for keeping the premises and surroundings better drained.

The bakehouses in the district have been periodically visited, and in only one instance was it necessary to call the attention of the occupiers to any defect, and this has since been remedied.

12 inspections of canal boats were made during the year, and all found to be in a satisfactory condition and to be registered.

394 inspections were made during the year under the Housing and Town Planning Act, and the following defects found :—

| | |
|-------------------------------------|-------|
| Defective waste water closets | 70 |
| „ waste pipes and drains | 51 |
| „ downspouts and gutters..... | 16 |
| „ ashpits | 8 |
| „ paved yards | 7 |
| Damp houses | 14 |
| Overcrowding | 3 |
| | <hr/> |
| | 169 |

Notices were served in connection with all of these defects, and nearly all of them have been complied with, the remainder being still under observation.

No houses have yet been found in such a state as to be unfit for habitation, the majority of the defects above referred to being of a minor character.

In two cases the overcrowding has been remedied, and the other case is receiving attention.

I have sent weekly returns of the infectious diseases to the Lancashire County Council and the Registrar-General, monthly returns to the Joint Hospital Board, quarterly returns of the mortality of the district to the Lancashire County Council and to your Council.

During the year I have made systematic inspections of the district.

Incorporated in the report is Mr. Halstead's account of the sanitary inspection of the district.

I am, Gentlemen,

Your obedient servant,

J. S. WILSON.

REPORT OF THE SURVEYOR.

TO THE CHAIRMAN AND MEMBERS OF THE URBAN DISTRICT
COUNCIL.

GENTLEMEN,

I have the honour to present to you my 11th Annual Report of the work in the Surveyor's Department for the year 1911.

Area of the District, 787 acres.

Estimated population, 8,300.

Plans relating to the following buildings have been approved during the year :—

| | |
|--|----|
| Houses | 68 |
| Alterations to existing buildings..... | 9 |
| Stables | 4 |
| Estate Plan | 1 |
| Erection of conveniences | 8 |
| Waste Store | 1 |

The number of dwelling-houses certified as completed during the year was 48.

The number of plans for the erection of dwelling-houses is the largest, with one exception, for the last ten years.

PRIVATE STREET IMPROVEMENTS.

Private Street Works to the amount of £452 7s. od. were completed, and others were being proceeded with at the end of the year.

There are now 65 front streets and 49 back streets paved and sewered.

The total length of front streets paved amounts to 6 miles 1 furlong 171 yards; and back streets, 1 miles 5 furlongs and 8 yards.

There are 8 miles 2 furlongs and 12 yards of sewers; 152 manholes; 82 lampholes; and 826 gullies within the district.

MAIN AND OTHER ROADS.

A considerable amount of re-paving has been necessary along the Main Road on account of the subsidence along the pipe line of the Nelson Corporation Water Department. A number of repairs were carried out at the same time, although much requires yet to be done, especially with regard to the channels along this road.

The re-paving of Milton Street and Oxford Street was completed before the end of the year, and I think has proved of great convenience to the people using them.

165 loads of detritus from gullies, and 95 loads of road scrapings have been carted to various tips; 541 loads of road scrapings and 148 loads from tanks carted on to farm land; 58 loads of pitch, etc., used in repairing footpaths, and 70 loads of ashes and limestone dust spread upon the streets and footpaths during frost.

SEWAGE WORKS.

A considerable amount of work has been carried out at the Sewage Works during the year. A complete plant has been erected for washing and screening the ashes before being placed into the contact beds, and so far it has worked very satisfactorily. The ashes from two of the second contact beds have already been removed, washed, and screened, and, along with other ashes replaced in the beds. As a result the holding capacity has been greatly increased and a more satisfactory effluent is being discharged. The work of replenishing the other bed will be proceeded with as early as possible.

In addition to replenishing the existing beds, it has also been decided to carry out extensions, both to the Septic Tanks and Contact Beds, and plans and estimates for the same have been forwarded to the Local Government Board.

953 loads of ashes have been carted to the works during the year, and 410 loads of sludge removed from the Septic Tanks.

ELECTRICITY.

The following table shows the consumption of electricity for the last five years :—

| | 1907. | 1908. | 1909. | 1910. | 1911. |
|-----------------------|--------|-------|-------|-------|-------|
| Ordinary consumers.. | 111704 | 14458 | 22757 | 27906 | 28406 |
| Motors | 2206 | 4357 | 5321 | 5948 | 6884 |
| Street Lighting | 4720 | 217 | — | — | — |
| Totals | 18630 | 19032 | 28078 | 33854 | 35290 |

STREET LIGHTING.

We have now 231 street lamps, against 230 last year. The number of mantles used per lamp was 6.16, against 7.60 in 1910. The average on the Main Road is 7.46, against 9.31. This reduction has been brought about by the use of inverted mantles, and these, I think, have been quite satisfactory during the year.

I remain, Gentlemen,

Your obedient servant.

B. HALSTEAD.